REMARKS

In the Official Action mailed June 7, 2005, the Examiner continued to reject claims 20-38 under 35 U.S.C. § 112. Specifically, the Examiner objected to the recitation in claim 20 that "the second type of control information is partitioned into a number of sections corresponding to the number of frames in the multi-frame". The Examiner further objected to the recitation of "transmitting with each frame in the multi-frame" in claim 20.

The source of the Examiner's objection to this claim language is found on page 4, lines 28-30 of the specification. Specifically, there it states that it takes 3 frames within a multi-frame of 6 frames (as defined and used according to the GSM standard) to transmit the coding mode information as within each frame only one of three bits is transmitted. From this, the Examiner concludes two things. First, the Examiner concludes that a multi-frame is defined as six frames. Second, the Examiner concludes that, of this six frame multi-frame, only three frames contain the partitioned information.

The Examiner rejected Applicants' previous arguments against this rejection by solely relying on the above-identified portion of the specification. The Examiner completely discounted all other aspects of the specification in maintaining the rejection. Applicants submit that the specification, as a whole, supports a claim in which each frame of the multi-frame contains a section of the partitioned information.

First and foremost is the Applicants' description of multi-frame signaling bits and multi-frame signaling steps. The discussion of multi-frame signaling steps is found on page 4 of the specification. The multi-frame signaling step is used to partition the coding information into multi-frame signaling bits. Multi-frame bits are described on page 5, lines 10, 15,

18, 19, 27, page 6 on lines 11, 14, 20, page 7 on line 2, and page 8 on lines 23 and 29.

In all of the discussion of multi-frame signaling bits, at no point is there any suggestion that the number of multi-frames and the number of multi-frame signaling bits are different. Furthermore, in FIG. 2, each of the frames described in that figure contain a single bit of a multi-bit signaling information.

Therefore, if one considers FIG. 2 when reading the statement relied upon by the Examiner on page 4, lines 28-30, one would conclude that although there may be six multi-frames in the GSM example of a multi-frame sequence, each of those frames would have a single bit of multi-bit partitioned signaling information. Referring again to FIG. 2, frames 0-2 contain one bit of a three-bit mode command. Frames 3-5 contain each one bit of a three-bit mode command. Frames 6-8 each contain one bit of a three-bit mode command. Therefore, each of the frames in the multi-frame sequence described in FIG. 2 contain one bit of a partitioned multi-bit mode command.

Claim 20 states that control information is partitioned into a number of sections that correspond to the number of frames in the multi-frame. Referring again to FIG. 2, the partitioned control information is indeed partitioned to a number of sections that correspond to the number of frames in the multi-frames. The claim does not limit control information to a specific code word. The claim only requires that the control information be partitioned. Therefore, it is for this reason Applicants believe that the Examiner's rejection is improper. Claim 20 previously presented is indeed supported by the specification.

However, in order to expedite the prosecution of this application, Applicants have amended claim 20 to state that, in a multi-frame system, a plurality of consecutive frames for

transmission are formed and the control information is partitioned between the consecutive data frames. This amendment is clearly supported by the specification. *See* e.g., FIG. 2. This amendment clearly eliminates any requirement for correspondence between a number of sections into which the control information is partitioned and the number of frames in the multi-frame sequence. It is for this reason that the Examiner is urged to withdraw his rejection of claim 20 under 35 U.S.C. § 112.

The Examiner also rejected claim 29. The basis for that rejection is the same as the rejection of claim 20. That is, the Examiner contends that the specification does not support a limitation that recites each frame in the multi-frame being transmitted with the first type of control information and a section of a partitioned second type of control information. The Examiner again cited page 4, lines 23-30 of the specification to support his conclusion that the specification does not support claims that recite partitioning the second type of control information among each frame of the multi-frame sequence.

Again, the Applicants submit that the Examiner's reliance on this one sentence in the specification is inappropriate. Throughout the specification, there is reference to multi-frame signaling and multi-frame bits. Every reference to multi-frame bits is in the context of partitioned second type of control information. Therefore, the definition of a multi-frame bit is a second type of control information partitioned and distributed among multiple frames in the multi-frame. There is no requirement in this definition that the multi-frames number six. There is no requirement in this definition that the multi-frames have a specific number of frames. Furthermore, FIG. 2 clearly describes nine frames each of which contain one bit of a partition multi-bit word that is

the second type of control information. Therefore, the Applicants again state that the Examiner is incorrect in concluding that there is no support in the specification for partitioning control information among each frame of a multi-frame sequence.

However, again in order to expedite the prosecution of this case, Applicants have amended claim 29 to state that the multi-frame system has a plurality of consecutive frames in a multi-frame sequence and that the second type of control information is partitioned and that the number of the plurality of consecutive frames corresponds to the number of sections of the partitioned second type of control information. There is more than ample support in the specification for this amended claim 28. The Examiner is referred specifically to FIG. 2 which illustrates that partitioned second type of control information (being gap 3 of frames 0-2) is partitioned into a three bit sequence 0, 1, 0 and that three bit sequence is distributed one bit in each of frames 0, 1 and 2. It is for this reason that the Examiner is urged to withdraw his rejection of claim 29 under 35 U.S.C. § 112.

The Examiner rejected claim 32 under 35 U.S.C. § 112 for the same reasons stated above for claims 20 and 29. That reason being that, in the Examiner's view, the specification fails to support the limitation "partitioning means adapted to partition the second type of control information into a number of sections corresponding to the number of frames in the multi-frame". As noted above, there is ample support in the specification for such a limitation. Applicants submit that it is clear that the multi-frame sequence is defined by the number of frames into which the second type of control information is partitioned in place. How else can the terms multi-frame signaling, and multi-frame signaling bits make sense?

Furthermore, FIG. 2 clearly illustrates nine frames,

each frame containing one bit of a partitioned multi-bit second type of control information. To be clear, FIG. 2 illustrates several sequences of such partitioned control information. However, none of the claims of the present invention require that the partitioned bits be partitioned from one sequence. The claims do not preclude the partitioned bits being from more than one code word.

However, in order to expedite the prosecution of this application, Applicants have amended claim 32. Claim 32 is amended to recite that the second type of control information is partitioned into a plurality of consecutive frames in the multi-frame sequence, the number of consecutive frames corresponding to the number of sections of partitioned information. It is for this reason that the Examiner is urged to withdraw his rejection of claim 32 under 35 U.S.C. § 112.

The Examiner rejected claim 33 under 35 U.S.C. § 112. Again, the reason for the Examiner's rejection is that the claim recited that each frame in a multi-frame sequence is transmitted with a first type of control information and a section of a partitioned second type of control information. Again, the basis for the Examiner's rejection is that, in the Examiner's view, the specification failed to adequately support the limitation. Again, the Examiner referred to page 4, lines 23-30 of the specification to support his view.

For the reasons previously stated, Applicants submit it is clear that the specification supports a claim in which each frame of the multi-frame sequence is transmitted with a section of the partitioned second type of control information. However, claim 33 is amended in order to expedite the prosecution of this application. Claim 33 is amended to recite that the control information is partitioned into sections and each section is placed in one of a plurality of consecutive frames of the multi-frame sequence. It is for this reason that

the Examiner is urged to withdraw his rejection of claim 33 under 35 U.S.C. § 112.

The Examiner rejected claim 34 under 35 U.S.C. § 112. Again, the basis for the Examiner's rejection is that, in the Examiner's view, the specification fails to support a claim that recites that the number of sections into which the second type of control information is partitioned corresponds to the number of frames in a multi-frame sequence. For the reasons stated above, the Applicants disagree with the Examiner's conclusion.

However, in order to expedite the prosecution of this application, Applicants have amended claim 34 to recite that the multi-frame sequence contains a plurality of consecutive frames, and that the plurality of consecutive frames corresponds in number to the number of sections in which the second type of control information is partitioned. It is for this reason that the Examiner is urged to withdraw his rejection of claim 34 under 35 U.S.C. § 112.

The Examiner rejected claims 37 and 38 under 35 U.S.C. § 112. Claim 37 recites a multi-frame transmission communication system wherein there is an uplink established from the second device to the first device. The Examiner apparently objects to the Applicants' use of the first device and the second device in the claim, stating that this convention implies that the uplink goes from the receiver to the transmitter. The Examiner correctly states that in the GSM system the uplink goes from the mobile part to the fixed part.

In order to clarify claims 37 and 38, the Applicants have amended these claims to specify that the first device is a fixed part of the communication system and the second device is a mobile part of the communication system. Claim 37 has also been amended to recite that there is an uplink established from the mobile part of the communication system to the fixed part of

the communication system. Support for this amendment is found in FIG. 3 and the accompanying text.

Claim 38 has been similarly amended to recite that there is a downlink established from the fixed part of the communication system to the mobile part of the communication system. This amendment is consistent with the Examiner's view of the operation of a GSM system. This amendment is also consistent with the description of the invention provided in FIG. 3 and the accompanying text. Based upon these amendments, the Examiner is urged to withdraw his rejection of claim 37 under 35 U.S.C. § 112.

The Examiner rejected claims 20-22, 25, 29 and 32-34 under 35 U.S.C. § 102(e). The Examiner cited U.S. Patent No. 6,418,558 to Roberts et al. as the basis for this rejection.

Claims 20, 29, 32, 33 and 34 are all independent claims. Claims 21, 22 and 25 depend from independent claim 20. The Examiner relies upon the same aspects of Roberts et al. to support his rejection of all independent claims. Specifically, the Examiner relies upon the aspects of Roberts et al. that discuss the use of the ninth bit to transmit control information to support his view that Roberts et al. anticipates Applicants' claims.

At the outset, Applicants note that they have amended all independent claims to recite that the second type of control information is partitioned into sections and the partitioned information is distributed among consecutive frames. As noted in the Applicants' specification, the partitioned control information is not related to the frame in which it is transmitted. *See* FIG. 2 and the accompanying text.

This is the fundamental distinction between Applicants' invention, recited in all independent claims, and Roberts et al. Referring to FIG. 9 of Roberts et al., that Figure clearly illustrates 32 channels in a frame. In

column 30, line 31 to line 41 of Roberts et al. it states "[e]ach DS0 in the CTSU input has been modified by appending a ninth bit which can carry multi-frame timing, signaling information and control/status messages (FIG. 9). This modified DS0 is referred to as a "DS0+". The ninth bit signal (NBS) carries a pattern which is updated each frame(emphasis added) and repeats every 24 frames. This maps each 64 kbps DS0 from the network into a 72 kbps DS0+. Thus, the 24 DS0 channels available on each DS1 are formatted along with overhead information into 24 DS0+ channels on each of the four CTSU input streams."

Clearly Roberts et al. does not disclose or suggest a method or apparatus in which control information of the second type is partitioned among consecutive frames and transmitted, wherein the second type of control information is a code word that is reassembled and used upon receipt.

Claim 20 has been amended to recite that the second type of control information comprises a code word that is partitioned into sections, each section sent with a different frame in a consecutive plurality of frames. Similarly, claim 29 recites a method in which the second type of control information comprises a code word that is partitioned into sections and each section is transmitted with a different frame in a plurality of consecutive frames. Claim 29 further recites that the second type of control information is reformed into the code word after transmission.

Claim 32 recites a communication device in which a code word is partitioned into sections and transmitted. Each section is transmitted in a different frame of a plurality of consecutive frames.

Claim 33 recites a communication device in which a second type of control information comprising a code word is partitioned into sections, each section transmitted in a

different frame of a plurality of consecutive frames. Claim 33 also recites that the partitioned code word is reformed, upon receipt, into the code word. Claim 34 recites a multi-frame transmission system, the system having a first device that partitions a code word for the second type of control information into a number of sections, each section being transmitted in a separate frame in a consecutive sequence of frames. Claim 34 also recites a mechanism for reforming the partitioned second type of control information into the code word.

Thus, claims 20, 29, 32, 33 and 34 are amended to recite that the second type of control information contains a code word and that code word is partitioned into sections. Furthermore, each section is transmitted in a separate frame of a plurality of consecutive frames.

It is clear that Roberts et al. does not anticipate these claims. Nothing in Roberts et al. discloses or suggests partitioning a second type of control information and transmitting it in the way Applicants claim (that is, partitioned into sections, each section being transmitted in a separate frame of a plurality of consecutive frames). Roberts et al. merely describes transmitting signaling information using a ninth signaling bit strategy. Clearly, Roberts et al. does not disclose or suggest partitioning a code word and transmitting that partitioned code word in a plurality of consecutive frames to which it does not relate.

Referring to column 98, line 62 to column 9, line 39, it is clear that Roberts et al. contemplate sending information using the ninth bit signaling. However, it is clear that Roberts et al. does not disclose or suggest (or even contemplate) partitioning a code word among consecutive frames and reforming and using that code word on receipt. Specifically, at column 98, line 63, to column 99, line 41

Roberts et al. states "the ninth bit is used for two distinct functions. In the upstream direction the ninth bit carries information regarding the ordering of data within a multi-channel call. The signaling consists of repeating number that indicates which time position the DS0 occupies in the multi-channel call. The format of the upstream ninth bit signaling is shown in Table 9. . . . In the downstream direction the NBS is used to enable data transmission." Therefore it is abundantly clear that Roberts et al. does not contemplate partitioning a code word, transmitting that partitioned code word by distributing the code word among consecutive frames to which it does not relate along with other signaling information and most specifically reforming the code word. Roberts et al. at most describes partitioning signaling information using a ninth bit signaling strategy.

It is for this reason that Applicants submit that its amended independent claims (and the claims dependent thereon) are patentable over Roberts et al.

The Examiner also rejected claims 21, 22 and 25 under 35 U.S.C. § 102(e). The Examiner again cited Roberts et al. as the basis for this rejection. Please note that claims 21, 22 and 25 depend from independent claim 20, which is patentable over Roberts et al. for the reasons stated above. Applicants submit that claims 21, 22 and 25 are patentable over Roberts et al. for the same reason that claim 20 is patentable over Roberts et al. That is, Roberts et al. does not disclose or suggest partitioning a code word into sections and transmitting each section in a separate frame of a sequence of consecutive frames.

The Examiner also rejected claims 20, 21, 22, 25, 29, 32, 33 and 34 under 35 U.S.C. § 102(e). The Examiner cited Balachandran et al. as the basis for this rejection.

Referring to the arguments above, Applicants submit that their claims are patentable over Balachandran et al. for

the same reasons their claims are patentable over Roberts et al. That is, while Balachandran et al. may describe partitioning signaling information among multiple frames, Balachandran et al. clearly does not disclose or suggest partitioning a code word into sections and transmitting each section in a different frame of a plurality of consecutive frames.

Specifically, Balachandran et al. describes partitioning the information in the FACCH in order to ensure that the transmission of the FACCH information does not replace or block out speech data. However, in Balachandran et al. each frame contains two data fields D_1 and D_2 according to FIG. 1. These data fields can contain either FACCH information or speech. According to Balachandran et al. the F_1 bit following the D_1 field indicates the origin of the data (either speech data or FACCH data). The F_2 bit indicates the origin of the data in the D_2 field.

Clearly, Balachandran et al. does not disclose or suggest partitioning a code word and transmitting the partitioned code word in a consecutive sequence of frames. The FACCH information in Balachandran et al. is not transmitted in a series of consecutive frames. The placement of the FACCH information in the frames depends upon the speech transmission requirements and the FACCH transmission requirements. In some instances, the FACCH information can be in one of the two data fields in an individual frame. In other instances, there may be no FACCH information in either the data fields in a particular frame. There is no requirement for regular transmission of the FACCH information in consecutive frames. It is for this reason that Applicants' claims 20, 29, 32, 33 and 34 are not anticipated by Balachandran et al.

The Examiner also rejected claims 21, 22 and 25 as anticipated under 35 U.S.C. § 102(e). Again, the Examiner cited Balachandran et al. as the basis for this rejection. Applicants

point out that claims 21, 22 and 25 depend from claim 20, which is patentable over Balachandran et al. for the reasons described above. It is for these same reasons that Applicants submit that claims 21, 22 and 25 are not anticipated by Balachandran et al.

Based upon the foregoing reasons, Applicants submit that claims 20-22, 29 and 32-34 are not anticipated under 35 U.S.C. § 102(e). The Examiner is urged to withdraw these rejections.

The Examiner rejected claims 23 and 24 under 35 U.S.C. § 103(a). The Examiner cited U.S. Patent No. 6,418,558 to Roberts et al. in view of U.S. Patent No. 6,134,220 to Le Strat et al. and further in view of U.S. Patent No. 5,881,105 to Balachandran et al. and U.S. Patent No. 6,385,460 to Wan et al. as the basis for his rejection.

Referring to the Examiner's articulated rejection of claim 23, the Applicants, at the outset, observe that the Examiner's over three page explanation of his obviousness rejection is strong support for the Applicants' position that claim 23 is certainly not obvious over these references. Indeed, Applicants submit that if Applicants' claim 23 were indeed obvious over these references, a shorter and more concise explanation of the reason for the rejection would certainly be possible.

Returning to the merits of the rejection, the Applicants note again that claim 20, upon which claim 23 depends, has been amended. The claim has been amended to recite that the second type of control information comprises a code word, and that the code word is partitioned into sections. The number of sections corresponds to the number of frames in a consecutive sequence of frames, the sections being partitioned and distributed among the consecutive data frames. Claim 23 adds to claim 20 by expressly stating that the first type of control information represents the coding mode as applied in the

downlink and the second type of control information represents the coding mode to be applied in an uplink of the communication system. Therefore the partitioned, sectioned information has nothing whatsoever to do with the frames in which it is transmitted. It is only used in subsequent frames (i.e. the frames transmitted from the uplink to the downlink).

The primary reference upon which the Examiner relies is Roberts et al. Roberts et al. has been distinguished in detail by the Applicants in the comments above, which addresses the Examiner's arguments that Robert et al. anticipates the independent claim 20. Applicants acknowledge that Robert et al. describes partitioning control information. However, the Applicants previously noted, and the Examiner appreciated, that Roberts et al. does not disclose or suggest partitioning a code word into sections, transmitting those sections in consecutive frames of a sequence of frames, wherein the frames in which the partitioned information transmitted are not related to the information. This distinction is key.

Nothing in either Le Strat et al., Balachandran et al. or Wan et al. suggest modifying the teachings of Robert et al. in a way that would render obvious Applicants' invention. Specifically, Le Strat et al. merely provides a suggestion that the downlink transmission contains coding mode information provided by the base station. The base station may modify the coding mode information based upon the transmission quality in the mobile station to the base station.

Since Le Strat et al. clearly does not disclose or suggest partitioning the second type of control information, i.e., the control information that is not related to the frames in which it is transmitted, the Examiner relies on Balachandran et al. to support his argument that these references, when combined, render obvious Applicants' invention as described in claim 23.

As previously noted, Balachandran et al. does disclose partitioning and interleaving information in the FACCH with speech signals, in order to transmit effectively both the speech information and the FACCH information. However, beyond the concept of partitioning and interleaving information for the efficiency of transmission, Balachandran et al. does not disclose or suggest partitioning a second type of control information to be transmitted from base station to mobile station, and distributing that partitioned information among a plurality of consecutive frames, so that the information can be used to transmit information from the mobile station back to the base station.

The Examiner's argument that it would have been obvious to one of ordinary skill in the art to modify Roberts et al. with the method of Le Strat et al. comes up short. Le Strat et al. simply does not disclose or suggest partitioning a second type of control information and transmitting it along with a first type of control information, wherein the second type of control information does not relate to the frames in which it is transmitted. While Roberts et al. contemplates using nine bits signaling in both the upstream and downstream directions, there is no concept in Roberts et al. of transmitting partitioned information in a downlink and using that information for a coding mode in the uplink. In fact, in Roberts et al. there is no suggestion of partitioning the information in the downlink to be used for any purpose in the uplink.

The Examiner seems to be of the view that any suggestion in the prior art of partitioning information for efficiency of transmission renders the present invention obvious. Applicants submit that this is simply not the case. Applicants have recognized that, in the GSM system, efficiency of transmission and reliability can be obtained by identifying certain types of signaling information that can be partitioned

and distributed among multiple frames. It is this aspect of Applicants' invention that the Applicants submit is not obvious in view of the cited references.

The Examiner also rejected claim 24. The Examiner relied on the same references to reject claim 24 as he did to reject claim 23. In claim 24 the second type of control information represents the downlink quality measured in the downlink. In claim 24 the transmission is an uplink of the communication system.

Again, the Examiner offers an almost three page explanation of the reason why claim 24, in the Examiner's view is obvious over the cited references. Again, the Applicants submit that the complex rationale employed by the Examiner is itself evidence of the fact that Applicants' claim 24 is not obvious in view of the cited references.

Specifically, while Roberts et al. teaches the transmission of information in the downlink of a communication system, Roberts et al. does not distinguish between a first type of control information related to the frames transmitted from a first link of the system to a second link of the system and information transmitted from a first link of a system, but which is not related to the frames in which it is transmitted. Failing to make this distinction, Roberts et al. does not suggest transmitting the second type of control information (information not related to the frames in which it is transmitted, but which is used by the second link of the transmission system).

Since Roberts et al. fails to appreciate the advantages of this type of transmission strategy, the Examiner seeks to find a suggestion that such a strategy would be advantageous by looking to the secondary references. However, the secondary references do not suggest this strategy.

The Examiner appreciates that Le Strat et al. does not disclose or suggest partitioning a second type of control information and transmitting it along with an unpartitioned first control information. Le Strat et al. merely appreciates the fact that, based upon the information that the fixed part receives, the fixed part modifies the coding mode in each transmission direction. Balachandran et al. simply identifies the problems associated with transmitting the large amount of control information required by the FACCH. The strategy employed by Balachandran et al. is to partition and to interleave this information with speech, so as not to slow down the speech transmission.

Balachandran et al. therefore does not suggest the strategy recited in claim 24. Balachandran et al. does not teach one skilled in the art to differentiate, in a transmission system with a downlink and an uplink, between control information related to the frame being transmitted from one link to the second link, and information that is not specifically related to the frame being transmitted, but will be used by the link receiving the information. The FACCH information transmitted by Balachandran et al. is system related control information, and not link related control information. It is for this reason that Balachandran et al. combined with the other references cited by the Examiner does not render Applicants' invention obvious.

The Wan et al. reference does not add anything to the cited references to change this conclusion. Wan et al. does not disclose or suggest employing different transmission strategies for control information associated with the frame and control information not specifically associated with a frame in which it is transmitted.

It is for these reasons that the cited references do not render obvious Applicants' claim 24.

The Examiner rejected claims 26-28 as obvious under 35 U.S.C. § 103(a). The Examiner cited Roberts et al. (U.S. Patent No. 6,418,558) in view of Dahlin (U.S. Patent No. 5,199,031) as the basis for this rejection. At the outset, Applicants note that claims 26-28 are dependent upon claim 20. Previously, Applicants explained why claim 20 was not anticipated by the primary reference (Roberts et al.) Therefore, Applicants submit that claims 26-28 are patentable by virtue of their dependence upon claim 20.

Furthermore, while the Dahlin et al. reference describes channel coding both FACCH information and SACCH information, Dahlin et al. does not disclose or suggest a frame based transmission between a first link and a second link of a communication system, wherein a frame contains control information relating to the frame, and a portion of partitioned control information of a second type. That second type of information is not related to the frame in which it is transmitted. As previously noted, Roberts et al. does not disclose or suggest this transmission strategy, nor does Dahlin et al. It is for this reason that claims 26-28 are not rendered obvious by the combination of Roberts et al. and Dahlin et al.

The Examiner rejected claims 30, 31, 35 and 36 as obvious under 35 U.S.C. § 103(a). The Examiner cites Roberts et al. in view of Balachandran et al. and further in view of Le Strat, et al. to support this rejection.

At the outset, Applicants note that claims 30 and 31 dependent from independent claim 29. Previously, Applicants explained why claim 29 was not anticipated by either Roberts et al. or Balachandran et al. Similarly, claims 35 and 36 depend from claim 34. Previously, Applicants explained why claim 34 was not anticipated by Roberts et al. and Balachandran et al. Therefore, at the outset, Applicants submit that claims 30, 31,

35 and 36 are patentable by virtue of the patentability of the independent claims on which these claims depend.

With regard to claim 30, the Applicants submit that the Examiner's rejection underscores the reason why Applicants claim 29 is novel over the cited references. Specifically, the Examiner states that "Roberts et al. does not expressly teach the step of decoding the received frames in accordance with a mode code derived from the first type of control information for each frame." The transmission strategy recited in claim 29, the independent claim upon which claim 30 depends, is simply not contemplated by Roberts et al. Roberts et al. does not disclose or suggest using a first type of control information that is transmitted in a link of a communication system to decode a second type of control information that has been partitioned and distributed among consecutive frames transmitted from the first link to the second link of the communication system. While the cited references may teach encoding or decoding transmitted information, they certainly do not disclose or suggest decoding received frames in the context of the method recited in claim 29.

These comments also apply to claim 31 which has been amended to recite that "encoding frames for transmission depends on the reformed code word". The Examiner recognizes that Roberts et al. does not expressly teach such a step. However, the Examiner contends that it's inherent in Balachandran et al. that messages encoded at the transmission side should be decoded on the receiver side. However, it is not inherent from Balachandran et al. that control information, partitioned into consecutive frames to which the information does not relate, are used to encode frames for transmission. Therefore, the Examiner's inherency argument with regard to the disclosure in Balachandran et al. must fail. Balachandran's disclosure of partitioning and interleaving FACCH information for transmission

aside, Balachandran et al. clearly does not disclose or suggest using partitioned control information transmitted in one link of a communication system for encoding information to be transmitted in a second link of the communication system.

Nor does the disclosure in Le Strat et al. remedy the deficiencies in the disclosure of Roberts et al. or Balachandran et al. in rendering claim 31 obvious. Le Strat et al. does not teach or suggest partitioning of control information. Nor does Le Strat et al. teach or suggest that the control information described therein might be partitioned. There is nothing in the combination of Le Strat et al., Roberts et al. and Balachandran et al. that suggests the combination that the Examiner is trying to make, i.e., modifying Roberts et al. with the methods of Balachandran et al. and Le Strat et al. There is simply nothing in the references themselves that teach or suggest this combination. In this regard, the Examiner suggests that the artisan would have been motivated because the "coding mode selected by the base station and transmitted to the mobile station would depend on the quality of transmission required and the resources required." However, this is not the only suggestion required for one skilled in the art to combine the references in the manner that would render the invention recited in claim 31 obvious. Specifically, the references do not identify the mode code partitioned in the first link to be the information used to encode frames for transmission of a second link. Again, this goes back to the Applicants' central theme that the transmission strategy claimed by Applicants is not disclosed or suggested by the cited references.

These arguments also apply to the Examiner's obviousness rejection of claims 35 and 36. These claims depend from claim 34 which the Applicants previously argued was not anticipated by the cited references. Claims 35 and 36 most certainly are patentable over the cited references by virtue of

their depending from claim 34. As previously noted, claim 34 recites a multi-frame transmission communication system. In that system, there is a first type of control information associated with each frame. There is also a second type of control information that comprises a code word. The system has a first device having a partitioning means adopted to partition the code word of the second type of control information. It also has a transmitting means adapted to transmit with each frame of the sequence of consecutive frames in the multi-frame, the first type of control information for the respective frame and a section of the second type of control information. Each section of the partitioned second type of control information is placed in a separate frame in a sequence of consecutive frames. The number of sections corresponds to the number of frames in the sequence of frames. While decoding frames depending on the first type of control information may be described generally in Le Strat et al. and Balachandran et al., neither reference discloses or suggests decoding such information in the context of a transmission system recited in claim 34. It is for this reason that the cited references do not render obvious claim 35.

Similarly, with regard to claim 36, that claim depends from claim 35. Therefore, the arguments provided above with regard to claim 35, apply to claim 36. The cited references do not render a multi-frame transmission communication system with the features of claim 36 in combination with the features of claims 35 and 34 to be obvious. Again, Roberts et al., Balachandran et al. and Le Strat et al. do not teach a communication system with the features recited in claim 34 (i.e. a system where a second type of control information is partitioned and transmitted in separate consecutive frames to which the information does not relate). While Le Strat et al. may teach the use of different coding modes to allow for different bit rates, Le Strat et al. clearly does not disclose

or suggest a communication system that transmits coding mode information in the manner set forth in claim 34.

For the foregoing reasons, Applicants submit that its amended claims, and the unamended claims dependent thereon, are patentable over the cited references. The Applicants submit that the claims are in condition for allowance.

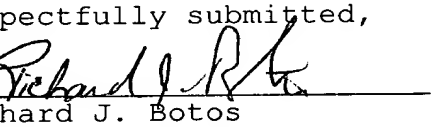
As it is believed that all of the rejections set forth in the Official Action have been fully met, favorable reconsideration and allowance are earnestly solicited.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he telephone applicants' attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Dated: October 5, 2005

Respectfully submitted,

By 

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